Remarks/Arguments

In the non-final Office Action dated December 02, 2009, it is noted that the allowability of claims 6, 10, 12 and 13 is withdrawn; that claims 3-5, 8, 10-13, 15, and 20 are pending; that claim 14 contains allowable subject matter, that claims 16-19 are allowed; and that claims 3-5, 8, 10, 11, 12, 15 and 20 stand rejected under 35 U.S.C. §103.

Cited Art

The references cited and applied against the claims are listed as follows: U.S. Patent 7,496,064 to Kupershmidt (hereinafter "Kupershmidt"); U.S. Patent 7,127,254 to Shvodian, et al. (hereinafter "Shvodian"); and U.S. Patent Application Publication No. 2004/0264397 to Benveniste (hereinafter "Benveniste").

Rejection of Claims 3-5, 8, 10, 11, 12, 15 and 20 under 35 U.S.C 103

Claims 3-5, 8, 10, 11, 12, 15 and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Shvodian in view of Kupershmidt, and in further view of Benveniste. This rejection is respectfully traversed.

With regard to the base claim 20, on page 4 of the Office action it is noted that Shvodian does not disclose the claimed feature of "grouping beacons of different devices into at the least one beacon period" and that this feature is shown by Kupershmidt. It is further noted that it would have been obvious to combine the teaching of Kupershmidt with the system of Shvodian to have a plurality of beacons slots on the beacon period of the superframe for the benefit of synchronizing the devices to the superframe.

It is respectfully submitted that the teaching of Kupershmidt and Shvodian cannot be combined. Kupershmidt appears to teach a wireless medium access control method that is based on TDMA frames and that includes distributed reservation protocol (DRP) slots and prioritized contention access (PCA) slots. (See Kupershmidt Fig. 2). The MAC method of Kupershmidt includes: assigning a plurality of information frames to at least one DRP queue and to at least one PCA queues; and scheduling a transmission of at least one information frame assigned to at least one DRP queue during at least one PCA transmission period. (See Kupershmidt abstract).

It is well known in the related art that MAC protocols for wireless networks are typically either distributed or centralized MAC protocols. TDMA and DRP based medium access control protocols are utilized in a distributed MAC protocols, i.e., when no single device (e.g., an access point) has an absolute control over the wireless medium. That is, Kupershmidt teachings pertain to distributed MAC protocols, hence distributed wireless networks.

On the other hand, Shvodian appears to teach a centralized MAC protocol where a coordinator device synchronizes the access to the network using beacons. For example, in Col. 5, lines 46-55, Shvodian states

> *"…beacon period 510 is set aside for the coordinator 310 to send a beacon frame out to the non-coordinator devices 320 in the network 300. Such a beacon frame will include information for organizing the operation of devices within the superframe…"*

Thus, Shvodian and Kupershmidt are directed to different types of MAC protocols, hence to different types of wireless networks. Therefore, Shvodian and Kupershmidt cannot be combined to provide at least the claimed feature of "grouping beacons of different devices into at the least one beacon period."

Claim 20 further includes the features: "transmitting a beacon Hibernation Information Element announcing a sleep period start time and a sleep period duration; and hibernating in a hibernation mode during the announced sleep period duration, wherein a hibernating device does not transmit a beacon during the sleep period."

The Office action asserts that these features are disclosed by Benveniste and not by the combination of Shvodian and Kupershmidt. The method for entering into a sleep mode as shown in Benveniste is performed by an access point. The access point receives a temporal period associated with a wake-up schedule for a device that has a power-save mode; determines whether the temporal period can be accommodated; and when the temporal period can be accommodated, determines a temporal offset for the wake-up schedule, and transmits to the device a positive notice comprising the temporal offset. (See Benveniste at paragraph [026] and Figs 5-7). That is, according to the method of Benveniste, a device that wants to enter into a sleep mode sends a request

to the access point, which checks if the request can be accommodated. Then, the access point informs the device when and for how long it can go to sleep.

In direct contrast, in the claimed invention, a device enters into the hibernation mode by announcing the sleep period start time and sleep period duration in a beacon Hibernation Information Element. There is no access point which determines if, when and for how long a device can be in the hibernation node. Such mechanism cannot be applicable in distributed wireless networks.

In addition, based on the above discussion, Benveniste's method is applicable in centralized wireless networks. Thus, Benveniste teachings cannot be combined at least with Kupershmidt's method which is pertained to distributed (de-centralized networks).

In view of these remarks, it is respectfully submitted that claim 20 and the claims dependent thereon, namely, dependent claims 3-5, 8, 10, 11, 12, 15, would not have been obvious to a person skilled in the art upon a reading of Shvodian, Kupershmidt and Benveniste either separately or in combination. Hence, it is believed that claims 3-5, 8, 10, 11, 12, 15 and 20 are allowable under 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that all the claims pending in this patent application are in condition for allowance. Reconsideration and allowance of all the claims are respectfully solicited.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 14-1270.

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